



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:**

Hinshaw et al.

**Serial No.:** 09/025,345

**Filed:** February 18, 1998

**For:** METAL COMPLEXES FOR USE AS  
GAS GENERANTS

**Confirmation No.:** 9478

**Examiner:** E. Miller

**Group Art Unit:** 3641

**Attorney Docket No.:** 2507-5818.1US  
(21494-US-09)

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence along with any attachments referred to or identified as being attached or enclosed is being deposited with the United States Postal Service as First Class Mail on the date of deposit shown below with sufficient postage and in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

January 16, 2004  
Date

Signature

Joseph A. Walkowski  
Name (Type/Print)

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**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the duty to disclose information material to patentability pursuant to 37 C.F.R. § 1.56, it is respectfully requested that this Supplemental Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents are enclosed pursuant to 37 C.F.R. § 1.98(a).

In accordance with 37 C.F.R. § 1.97(g) and (h), filing of this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or an admission that the information cited herein is, or is considered to be, material to patentability as

defined in 37 C.F.R. § 1.56(b). Further, no representation is made by Applicants herein that no other possible material information as defined in 37 C.F.R. § 1.56 (b) exists.

U.S. Patent Documents

<u>U.S. Patent No.</u>	<u>Publication Date</u>	<u>Patentee</u>
5,429,691	07/04/1995	Hinshaw et al.

Other Documents

- Ablov, A.V., et al., "Thermal decomposition of cobalt(III) ammines," Zhurnal Neorganicheskoi Khimii (1969), Chem. Abs. 72:85795 (SciFinder).
- Anthavale, P.D., et al., "Catalytic activity of copper(II) ammine complexes supported on silica gel in the decomposition of hydrogen peroxide," Indian Journal of Technology (1988), Chem. Abs., 111:121746 (SciFinder).
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- Bhatta, D., et al., "Annealing of chemical radiation damage in hexammino- and nitratopentamminocobaltic nitrates," Indian Journal of Chemistry, Section A: Inorganic, Physical, Theoretical & Analytical (1982), Chem. Abs. 98:63203 (SciFinder).
- Cotton, F. Albert, et al., Advanced Inorganic Chemistry, 5<sup>th</sup> Ed., John Wiley & Sons, New York, 1988, p. 363.
- Do Ngoc Hue, et al., "Spectrophotometric determination of the stability constants of ammine-nitrite-cobalt(II) complexes, with consideration of the effect of dissolved oxygen," Zhurnal Obshchei Khimii (1988), Chem. Abs. 108:157228 (SciFinder).
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- Jackson, W.G., "Oxygen scrambling in pentaamminenitritocobalt(III) revisited," Inorganica Chimica Acta (1988), Chem. Abs., 109:177477 (SciFinder).
- Kapanadze, T. Sh., et al., "Cobalt(III) sulfite mixed ligand complexes," Koordinatsionnaya Khimiya (1989), Chem. Abs., 111:89270 (SciFinder).
- King, Henry C.A., "Solubilities and enthalpies of solution of a series of pentammine complexes," Revista Latinoamericana de Quimica (1972), Chem. Abs. 76:158971 (SciFinder).
- King, H.J.S., "Researches on Chromammines, Part II, Hydroxopentamminochromic Salts and Electrical Conductivities of Chromammines," Hydroxopentamminochromic Salts, Etc., July 1925, pp. 2100-2109.

- Klyichnikov et al., "Conversion of Mononuclear Hydrazine Complexes of Platinum and Palladium into Bionuclear Complexes," *Ukrainski f i Khimicheski f i Zhurnal*, Vol. 36, No. 687, 1970, pp. 687-689.
- Klyuchnikov, N.G., et al., "Preparation of Some Hydrazine Compounds of Palladium," *Russian Journal of Inorganic Chemistry*, 13 (3), 1968, pp. 416-418.
- Laing, M., "*mer*- and *fac*-[Co(NH<sub>3</sub>)<sub>3</sub>(NO<sub>2</sub>)<sub>3</sub>]: Do They Exist?," *Journal of Chemical Education*, Vol. 62, No. 8, Aug. 1985, pp. 707-709.
- Marsh, R.E., et al., "Crystal structure of decammine- $\mu$ -peroxo-dicobalt pentanitrate," *Acta Crystallographica, Section B: Structural Crystallography and Crystal Chemistry* (1968), Chem. Abs. 68:82052 (SciFinder).
- Miskowski, V. M., et al., "Crystal structure and polarized electronic spectra of a ( $\mu$ -superoxo)dicobalt(III) complex: [(NH<sub>3</sub>)<sub>5</sub>Co)<sub>2</sub>O<sub>2</sub>](NO<sub>3</sub>)<sub>2</sub>·13.2H<sub>2</sub>O," *Inorganic Chemistry* (1984), Chem. Abs. 100:59011 (SciFinder).
- Mrozinski, J., "Thermal analysis of cobalt(III) peroxy complexes," *Pol. Prace Naukowe Instytutu Chemii Nieorganicznej i Metalurgii Pierwiastkow Rzadkich Politechniki Wroclawskiej* (1973), Chem Abs. 80:127685 (SciFinder).
- Nomiya, K., et al., "Synthesis of cobalt(III) molybdoheteropolyanions using carbonato-ammine cobalt(III) complexes as starting materials," *Polyhedron*(1987), Chem. Abs. 107:189450 (SciFinder).
- Pass, G., et al., *Practical Inorganic Chemistry, Preparations, reactions and instrumental methods*, 2<sup>nd</sup> Ed., Chapter 6, *Coordination chemistry I: typical compounds*, Chapman and Hall, London, 1974, pp. 56-62.
- Patil, K.C., et al., "Synthesis and Characterisation of Metal Hydrazine Nitrate, Azide and Perchlorate Complexes," *Synth. React. Inorg. Met.-Org. Chem.*, 12(4), 1982, pp. 383-395.
- Schmitz-DuMont, V.O., et al., "Hydroxokobalt(III)-amide," *Z. anorg. allg. Chemie*, Bd. 300, 1959, pp. 175-193.
- Shibata, M., et al., "Synthesis of Nitroammine- and Cyanoamminecobalt(III) Complexes with Potassium Tricarbonatocobaltate(III) as the Starting Material," *Inorganic Chemistry*, Vol. 3, No. 11, Nov. 1964, pp. 1573-1576.
- Shibata, M., "Optically active cis-unidentate-dicarbonato, cis-cis-diunidentate-carbonato, and unidentate glycinate cobalt(III) complexes," *Inorganic Syntheses* (1985), Chem. Abs. 104:121865 (SciFinder).
- Siebert, V.H., "Isomere des Trinitrotriammincobalt(III)," *Z. anorg. Allg. Chem.* 441 (1978), pp. 47-57.
- Wiegardt, K., et al., " $\mu$ -Carboxylatodi- $\mu$ -Hydroxo-Bis[triamminecobalt(III)] Complexes," *Inorganic Synthesis* 23, 1985, pp. 107-116.

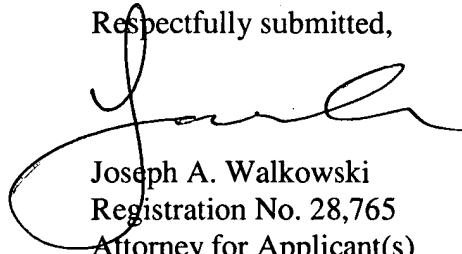
Applicants offer to supply any explanation or discussion of the documents which the Examiner feels is necessary or desirable and which is requested.

Serial No. 09/025,345

This Supplemental Information Disclosure Statement is filed after the mailing date of the first Office Action on the merits.

The fee pursuant to 37 C.F.R. § 1.17(p) is enclosed.

Respectfully submitted,



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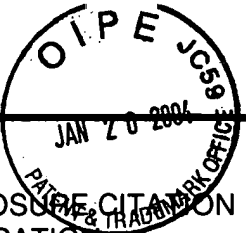
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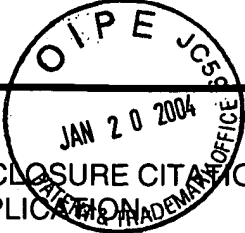
Enclosures: Form PTO-1449

Copy of documents cited

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Form PTO-1449  <b>INFORMATION DISCLOSURE CITATION</b> <b>IN AN APPLICATION</b>  <i>(Use several sheets if necessary)</i>		<div style="text-align: center;">  </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Docket Number (Optional) <b>5818.1US (21494-US-09)</b></td> <td style="width: 50%;">Application Number <b>09/025,345</b></td> </tr> <tr> <td colspan="2">Applicant <b>Hinshaw et al.</b></td> </tr> <tr> <td>Filing Date <b>Fbruary 18, 1998</b></td> <td>Group Art Unit <b>3641</b></td> </tr> </table>		Docket Number (Optional) <b>5818.1US (21494-US-09)</b>	Application Number <b>09/025,345</b>	Applicant <b>Hinshaw et al.</b>		Filing Date <b>Fbruary 18, 1998</b>	Group Art Unit <b>3641</b>
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE			
	5,429,691	07/04/1995	Hinshaw et al.						
<b>OTHER DOCUMENTS</b> <span style="float: right; font-size: small;">(Including Author, Title, Date, Pertinent Pages, Etc.)</span>									
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		Do Ngoc Hue, et al., "Spectrophotometric determination of the stability constants of ammine-nitrite-cobalt(II) complexes, with consideration of the effect of dissolved oxygen," Zhurnal Obshchei Khimii (1988), Chem. Abs. 108:157228 (SciFinder).							
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		Nomiya, K., et al., "Synthesis of cobalt(III) molybdoheteropolyanions using carbonato-ammine cobalt(III) complexes as starting materials," Polyhedron(1987), Chem. Abs. 107:189450 (SciFinder).							
		Pass, G., et al., Practical Inorganic Chemistry, Preparations, reactions and instrumental methods, 2 <sup>nd</sup> Ed., Chapter 6, Coordination chemistry I: typical compounds, Chapman and Hall, London, 1974, pp. 56-62.							
		Patil, K.C., et al., "Synthesis and Characterisation of Metal Hydrazine Nitrate, Azide and Perchlorate Complexes," Synth. React. Inorg. Met.-Org. Chem., 12(4), 1982, pp. 383-395.							
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